LOUISIANA
Conservationist
March-April 1983

Jesse J. Guidry, *Secretary*

comments...

Speckled trout and redfish are undoubtedly the most important recreational and commercial species of fish found along the Louisiana coast.

In the watery lacework of lakes, bays, bayous and oil company canals, as well as along the sandy beaches of barrier islands, specks and reds have provided keen sport for saltwater anglers for generations.

Similarly, these two species of fish have traditionally provided a source of income for commercial fishermen and found ready market in retail sales and restaurant consumption by the non-angling public.

The preparation and serving of these fish, whether caught commercially or for sport, is an integral part of the Louisiana lifestyle, as time-honored as the serving of crabs, oysters or crawfish.

In the summer of 1982, a controversy between sport fishermen and commercial fishermen that had smoldered since the mid 1970s was fanned into life by charges and counter charges of misuses of those fisheries resources by both user groups.

There were open threats that the controversy would be presented to the Louisiana Legislature this spring and that emotionalism would prevail over logic to bring about new regulations for those species of both sport and food fish.

In order to be prepared to present the legislature with all available data, as well as a recommended management plan for those species of coastal fish, I created a task force in the fall of last year.

The task force had as its objective the collection of all biological and economic data available on speckled trout and redfish. In addition to the data obtained in Louisiana, the task force had instructions to obtain material from other coastal states.

A preliminary report from the task force was delivered to me in early January and a final report was completed later that month. Copies of the 106-page task force report were circulated to both sport and commercial fisheries organizations, outdoor editors and writers, and interested persons who requested them.

It did not come as a surprise to me or to members of the task force that the report lacked certain biological, economic, sociological, environmental, and administrative information that is absolutely necessary for any long-range management program for the two species of fish.

Those areas of missing information brought into sharp focus the immediate need for a special section within the Seafood Division to devote its full attention to collecting the additional data necessary for a lasting management program for specks and reds, and other finfish found in coastal waters.

I assure you this need is being addressed and that this needed section in the Seafood Division will be functioning as quickly as funding and proper personnel are acquired.

Following circulation of the task force report, a series of public hearings was set up for late March. There were open meetings in Lake Charles, Houma, and Lafitte. The purpose was to receive as much public comment on management of speckled trout and redfish as possible.

The public hearings were well attended and testimony included statements from user groups other than sport and commercial fishermen. Non-fishing consumers were well represented, as were restaurant and hotel associations.

With the task force report complete and the public hearings conducted, it now becomes the responsibility of the Department of Wildlife and Fisheries to recommend a management plan for these two species of fish that will be acceptable to the greatest number of people utilizing those fisheries resources, recreationally or commercially.

It should be stressed that the department's recommendations are not cast in stone. They will be subject to modification and change as additional data are collected by the new section within the Seafood Division.

Improved statistics on commercial and recreational fishing, more rapid turn-around time with collected data to aid management, a coast-wide creel census, tagging and telemetry studies, additional information on the extent and effect of recreational fishing; all these and many other factors will enter into a progressively better management system.

In order for the wildlife department to initiate a broad, new management program for speckled trout and redfish, it must have full cooperation from sport fishermen, commercial fishermen, and seafood dealers. Hopefully, this will be forthcoming, but initial recommendation of the department to the legislature will certainly contain some mandatory provisions that will provide the department with the data not now available but necessary for a progressive management program.

With full backing of all persons having vested interest in proper and prudent management of speckled trout, redfish, and other coastal finfish, I am confident that future clashes among users of these fisheries resources can be averted.

LOUISIANA Conservationist

Published by the Department of Wildlife and Fisheries in the interest of conservation of Louisiana's natural resources

March-April 1983

Louisiana Conservationist
(ISSN 0024-6778)
Volume 35, No. 2
400 Royal Street
New Orleans, Louisiana 70130

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The Louisiana Conservationist is published bimonthly by the Louisiana Department of Wildlife and Fisheries, 400 Royal Street, New Orleans, LA 70130; editorial office, P.O. Box 15570, Baton Rouge, LA 70895. Second-class postage paid at New Orleans, LA 70130.
Postmaster: Send address changes to Louisiana Conservationist, 400 Royal Street, New Orleans, LA 70130.

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Back Cover *by Lloyd Poissenot*

This public document was published at an annual cost of $300,000 or 25¢ per copy by Century Graphics, 4422 Toulouse, New Orleans, Louisiana, to foster the department's overall program of conservation of our renewable natural resources, under authority of Article 9, Section 7 of the Louisiana Constitution and Act 11 of 1980. This material was printed in accordance with the standards for printing by state agencies established pursuant to R.S. 43:31. Printing of this material was purchased in accordance with the provisions of Title 43 of the Louisiana Revised Statutes.

Crisis on the Coast..

A Task Force Reacts

By McFadden Duffy

Man just recently realized what time and the river had created and what he had begun to destroy by controlling the river.

Photography by Lloyd Poissenot

The accelerating erosion of marshland along the Louisiana coast, approximately 40 square miles annually, has created a crisis on the coast.

This progressive loss of marshes is a menace to the state's multi-million-dollar seafood, fur, and alligator resources. It represents a gnawing away at the nation's most valuable winter habitat for waterfowl and migrating birdlife.

Widespread publicity in early 1981 regarding acceleration of the land loss

Originally a channel 500 feet wide, the Mississippi River-Gulf Outlet today is a much-broadened waterway, its banks eroded away in many places into open bays and lakes and its bordering marshes killed by saltwater intrusion.

along the coast that had been recognized by the Department of Wildlife and Fisheries and others since the 1950s brought about immediate interaction by Gov. David C. Treen and the Louisiana Legislature.

Act 41 of the 1981 special session of the Louisiana Legislature established the Coastal Protection Trust Fund and appropriated $35 million into it for projects to combat erosion, saltwater intrusion, subsidence, and the loss of marshes along the Louisiana coast.

Early in 1982, Gov. Treen established a Coastal Protection Task Force. It had the primary purpose of demonstrating the use of techniques to control erosion, to restore, protect and nourish barrier islands, to deter saltwater intrusion, and to demonstrate land-building and beach nourishment programs, all aimed at remedying this increasing land loss along the coast.

The task force was faced with a massive, major problem along the coast. Not only were the coastal and estuarine-dependent commercial fisheries, fur, alligator and waterfowl resources threatened, along with possible loss of mineral revenues offshore, but sport fishing along the coast for saltwater species could be altered drastically due to loss of essential nursery areas.

The enormousness of the accelerating erosion threat can be seen in fisheries production statistics and other records for the calendar year 1982. In that year, National Marine Fisheries Service compilations show that Louisiana produced 1.6 billion pounds of fishery products, surpassing the previous record of 1.5 billion pounds caught in 1978. This was more than 20 percent of the national catch.

The biggest volume was menhaden, small oily fish that are processed into several products including feed supplements and oil. Other fisheries products that figure prominently in Louisiana's economy are shrimp, oysters, crabs and finfish.

The Caernarvon freshwater diversion project will introduce freshwater from the Mississippi River (foreground, above) into nearby marshland to reduce salinities and encourage marsh restoration. A similar freshwater diversion structure already exists at Bayou La Moque (below) where benefits to the surrounding marshland have been realized.

The dockside value of the 1982 shrimp catch was $146 million. Oyster production netted coastal oyster fishermen some $8 million. Crab fishermen turned a $4 million profit that year. Finfish contributed substantially to the 1982 income.

Although it was a below-average year, fur-trappers pocketed some $8.5 million and the take of alligator skins put an additional $2 million in the pockets of trappers.

The renewability of these fishery and wildlife resources is hinged to the lacework of marshes, lakes and bays that make up one of the greatest estuarine areas in the world.

What is happening today along the Louisiana coast, particularly in southeast Louisiana where erosion effects are more visible, came as no surprise to the Department of Wildlife and Fisheries which had been aware of this marshland loss since the 1950s.

A series of reports begun in the 1950s by Dr. James P. Morgan of the Coastal Studies Institute of Louisiana State University focused in-depth attention on Louisiana's changing coastline.

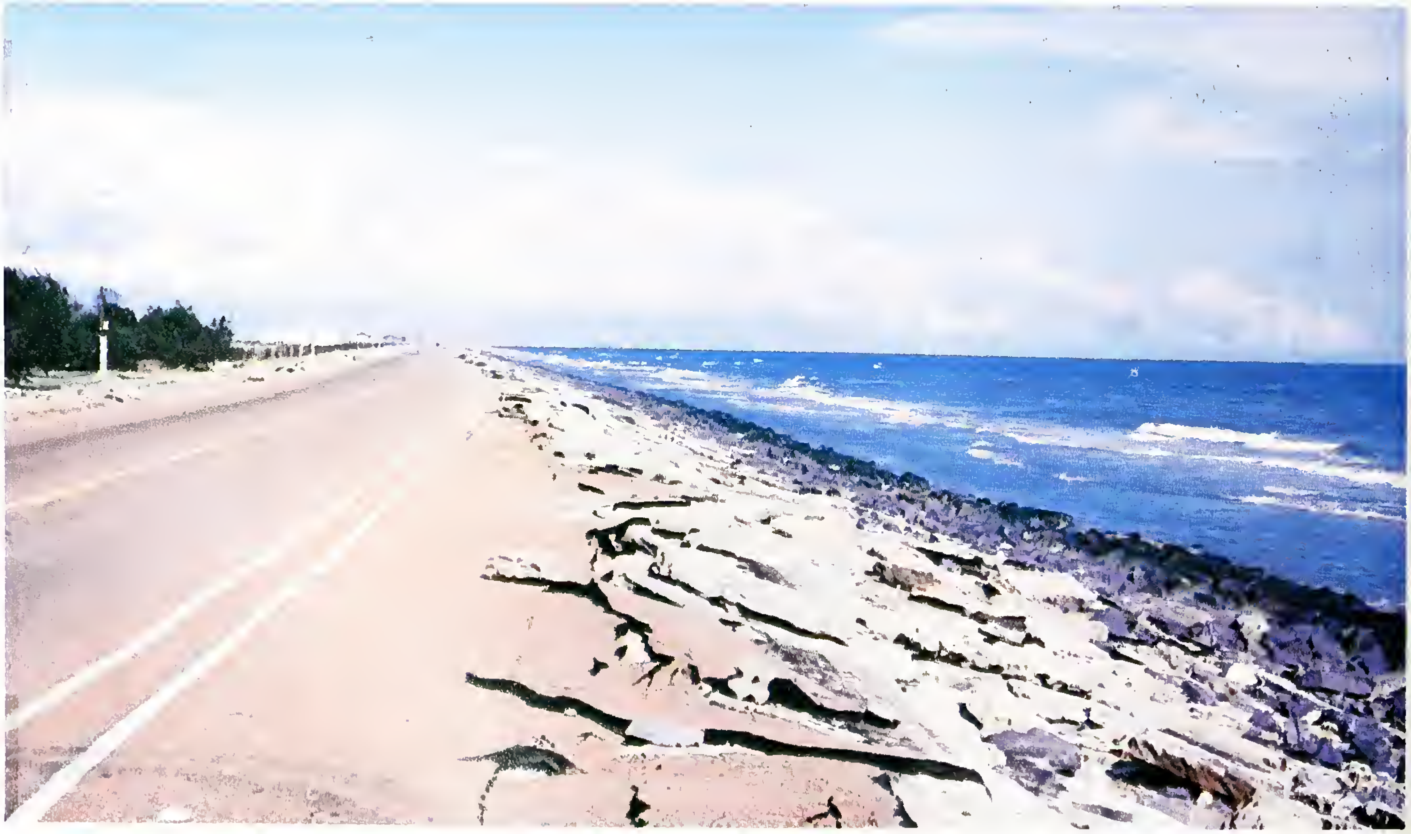
Information about erosion losses due to widening of canals in marshlands was determined by the department on Rockefeller Wildlife Refuge during the period 1954-1957 when a geological study was made by Lewis G. Nichols. Continuing studies were made by Nichols during the period February 1955-July 1957 when he was employed as a geologist by the wildlife department's Refuge Division.

Actually, what is causing the progressive and accelerated erosion of marshland along the Louisiana coast is the classic and relentless battle of the rivers with the seas. The historic building of the world's greatest and most productive deltas in Louisiana is a well known result of one of the world's great rivers battling with the sea to build new land.

The never-ending duel between the rivers and the sea is as old as earth itself, an unremitting tug-of-war that results wherever rivers rush to meet the sea.

Before man interfered, the Mississippi River raced through the heartland of America for untold centuries, reaching for the Gulf of Mexico like a sinuous, tawny arm, hand and fingers outstretched. Nestled in the soft palm of that hand and around those spread fingers, which were mouths of the river, were the richest deltas in the world.

Each time the mighty river changed course, new deltas were formed from the topsoil of half a continent churned into silt and sediment in the river's deep, broad currents every day. Its sediment-laden waters created a lacework of marshes so rich in wildlife and fisheries resources that man just re-



Bob Dennie

Louisiana Hwy. 82, which hugs the shoreline between Holly Beach and Peveto Beach, serves as an important evacuation route yet it has been inundated, severely damaged and relocated inland several times since the 1930s. A comprehensive erosion plan is required to protect the highway and the recreational facilities in the area.

A project to stimulate the normal land-building process of the Mississippi River, as it occurred for untold centuries until man interfered, is planned for the Pass a Loutre Wildlife Management Area near the mouth of the river.

cently realized what time and the river had created, and what he had begun to destroy by controlling the river.

For thousands of years, the Mississippi River, fed by huge tributaries that drained almost two-thirds of the United States, was one of the great land-building rivers of the world. For centuries on end, the coffee-colored river swept rich, liquid soil eroded from the heart of a continent and dumped it from its overflowing mouths at the edge of the sea. Swirling sea water toyed with the deposits of silt and sediment, molded tidal ponds, inlets and estuaries. The sea carved lagoons, bays and channels, and wove watery lace.

Perhaps to best understand the role of the river in this land-building process, one should take a quick look at the emerging Atchafalaya delta. It is the most significant example in the world of the land-building capabilities of an almost unfettered delta.

Healing, binding grasses cover many of the emerging mud flats. Along with the grasses come other forms of plant life, from cattail and roseau cane to black willows. Many forms of wildlife are attracted to the new land masses. Along with nutria, muskrat, raccoon, mink, otter and marsh rabbits, there are many forms of birdlife, shore birds, wading birds and wintering waterfowl.

The newly forming Atchafalaya delta is a dynamic example of wildlife habitat in the making. The evolving land formation, the progressive establishment of plant life, and the migration of animal communities into the emerging wetland mass is a graphic example of how the Louisiana marshes were formed over a period of many centuries. (See Louisiana Conservationist, March/April 1976 and September/October 1981, Of Time And The River, and Of Time and The River . . . Continued.)

The erosion losses that threaten the Louisiana coast are the result of a combination of man-made and natural impacts after active delta-building ceased.

The death knell for large portions of the Louisiana coast was actually sounded by earth-moving equipment when man began to harness the Mississippi River and its tributaries in the name of flood control. Construction of mainline Mississippi River levees prevented overbank flooding along the the lower Mississippi. Containment of silt and sediment that for centuries had spilled out to build new land and replenish subsiding land now means that the land-building material is swept out into the Gulf's deep waters by the river's surge where its land-building potential is lost.This loss of beach nourishment material results in constant reworking of the remaining beaches by the littoral currents as well as periodic frontal assults by storms.

With the cessation of the land-building process, the odds in the ancient battle of the Mississippi River with the Gulf of Mexico shifted in favor of the gulf. The ever-greedy sea began to gnaw away at the lush lands the river had created.

Man increased the wetland loss through many other activities as well as the building of massive levees to contain the river. Canal dredging associated with oil and gas exploration and production opened many areas to saltwater intrusion. Drainage of marshes for agriculture and other uses was another factor in spiraling land loss.

Saltwater intrusion, a major cause of marshland deterioration, was accelerated by the dredging of navigational canals. A classic example of the damage that resulted can be seen in the Mississippi River-Gulf Outlet. Originally a channel 36 feet deep by 500 feet wide, and extending for 78 miles from New Orleans to the Gulf of Mexico beyond the Chandeleur Islands, the MRGO was hailed as a direct outlet to the gulf from the Port of New Orleans, an important second outlet for national defense, and a shorter, cheaper route to the gulf. It has not accomplished many of those projected purposes and is not used as much as was predicted.

Today, the MRGO ship channel, construction of which the Department of Wildlife and Fisheries opposed, when seen from the air is a much-broadened waterway, its banks eroded away in many places into open bays and lakes by the lashing wakes of speeding ships, its bordering marshes killed off by saltwater pushed regularly up the channel by high tides and surging storm tides.

The work by Lewis G. Nichols for the department at Rockefeller Wildlife Refuge at 11 locations on the Superior and Humble canal systems clearly showed that canal widening was in direct ratio to usage. Little wonder that the MRGO impacted St. Bernard Parish.

Some studies show that following the digging of the MRGO channel in the late 1950s and early 1960s, water salinities more than trippled in the prime St. Bernard Parish wetlands. Thousands and thousands of acres of marshes that were present in that parish in the mid-1950s were gone by the late 1970s.

Along with those acres of fresh marsh went a substantial part of the state's production of furbearers. Estuaries where shrimp, crabs and finfish thrived were turned into shallow, salty bays and lagoons. As salinities increased, oyster beds in some areas were threatened by invasions of conchs or drills.

MRGO is not the only man-made channel that has wrought havoc on the coast. Others are the Barataria Bay Waterway, the Houma Navigational Canal, and the Calcasieu Ship Channel. Additionally, the intracoastal canal linked these waterways together and resulted in lateral movement of saltwater.

The extension of the Atchafalaya River east bank levee from Morgan City to Avoca Island altered the distribution of flood waters to the marshes of southwest Terrebonne Parish. Gradual ecological changes associated with increasing saltwater intrusion affecting the marshes and waters have been observed during the past 30 years, with many acres of oyster growing waterbottoms being affected.

The Grande Terre/Cheniere Ronquille stabilization project will help restore an area which is presently the weakest link in the barrier island system. Plans call for the sealing of existing breaches and filling in of pipeline canals and waterbodies near the shoreline.

Storm tides, too, have taken their toll on the coastal barrier islands, gnawing away at the islands and widening natural passes as well as creating new breaks and passes. Periodic hurricanes have hastened the deterioration of the barrier islands.

Following creation of the Coastal Protection Task Force in early 1982 by Gov. Treen, the technical committee appointed by the task force began meeting.

The primary purpose of the technical committee of the task force was to explore, consider, and eventually recommend to the task force a series of demonstration projects along the coast that would, if successful, provide the governor and the legislature with a long-range program that could be expanded coastwide to reduce the accelerating loss of priceless marshland.

After months of meetings and consideration, the task force and its technical staff came up with a diversified series of demonstration projects. These were submitted to Gov. Treen who presented them to the Joint Legislative Committee on Natural Resources.

Following approval of the Joint Legislative Committee on Natural

The Coastal Protection Task Force

Governor David C. Treen

Gerald Bordelon, *Chairman*
Louisiana Coastal Commission

Jesse J. Guidry, *Secretary*, Dr. Ted B. Ford,
Department of Wildlife and Fisheries

Frank Simoneaux, *Secretary*, Dr. Charles G. Groat,
Department of Natural Resources

Darrell Williamson, *Assistant Secretary*, Jiff Hingle,
Office of Public Works
Department of Transportation and Development

Resources, the recommendations went to the Legislative Budget Committee which was asked to provide 7.7 million from the Coastal Protection Trust Fund for work to begin as soon as possible.

The projects recommended by Gov. Treen that won approval of both the Joint Natural Resources and Legislative Budget Committees were similar to some of the projects contained in the September 29, 1981, *Report on Special Projects for Coastal Louisiana To the Legislature and the Governor from the Senate Committee on Natural Resources and the House Committee on Natural Resources, Meeting Jointly.*

They include reconstruction of barrier islands, shoring up eroding beaches and rejuvenation of marshlands with sediments and nutrients from the Mississippi and Atchafalaya rivers.

The planned work involves two joint state-federal projects, the Caernarvon Freshwater Diversion and the Teche-Vermilion Freshwater Project, three demonstration/pilot projects funded entirely by the state, and one study.

One pilot project involves barrier island restoration at two locations, one involves beach nourishment, and three involve diversion of freshwater. The single study is designed to project coastal conditions that will establish a baseline upon which those involved can guide and measure the success of coastal restoration and erosion reduction projects in the future.

The state-funded demonstration projects are small-scale barrier island and beach stabilization and water/sediment diversions designed to demonstrate techniques, test levels of effectiveness, and provide cost/benefit information that will lead to informed decisions in related future projects.

Because timing of the projects to demonstrate results in 24-44 months is important, a number of activities must be carried out simultaneously upon project initiation. Early project monitoring, environmental assessment, economic feasibility, and detailed project planning are essential for successful completion within the allotted time frame. Project timing is phased to allow cost saving due to economies of scale.

Each of the demonstration projects requires monitoring that will detail conditions before, during, and after the project. Information gained in the monitoring program will be essential in judging the success of the project. The monitoring program will rely heavily on the use of remote sensing aircraft to increase cost effectiveness. On the ground surveys will be required to determine quantitative changes.

The economic analysis portion of the demonstration projects will be important in establishing cost effectiveness of each project approach. Since many of the benefits accrue to the state's natural resources, including wildlife and fisheries resources, a resource economics approach is necessary to quantify benefits. On each demonstration project the cost/benefit study will detail and document the benefits.

Two of the projects involve the use of dredged material for beach and barrier island nourishment. These two projects are located in the Holly Beach/Peveto Beach area, and at East Isle Dernieres and Grand Terre/Cheniere Ronquille.

The barrier islands project, involving East Isle Dernieres and Grand Terre/Cheniere Ronquille, will utilize vegetation to hold the dredged sand or sediment in place. Vegetation has been found to play a key role in reducing erosion, and accumulating and binding sediments.

The full demonstration project program now being implemented brings together past and ongoing research, and agency, university, and consultant expertise in a package of feasible projects that can provide prototypes in the fight to save Louisiana's coastal zone.

Moving from west to east along the Louisiana coast, the first major demonstration project is the Holly Beach-Peveto Beach protection action.

Along the shore west of Calcasieu Pass in Cameron Parish is the second most extensive coastal recreational development in the state. Over 700 structures are found in the beachfront communities of Holly Beach, Constance Beach, Chaisson Subdivision and Ocean View Beach.

Louisiana Hwy. 82, the gulf coastal highway, hugs the shoreline between Holly Beach and the former beach community of Peveto Beach. It serves as an important evacuation route yet has been inundated and relocated inland several times since the 1930s. The highway was severely damaged by Hurricane Audrey in 1957, which also destroyed all recreational development in the area. In 1971, a gobi-block revetment was installed by the Office of Highways along Louisiana Hwy. 82 at Peveto Beach to buffer wave attack and protect the highway.

Recent events along the Holly Beach-Ocean View Beach stretch have prompted renewed concern for the highway and recreational settlements. The gobi-block revetment protecting three miles of highway has exhibited some success, but unacceptable maintenance costs. Consequently, $3 million has been appropriated to the Office of Highways for construction of a more solid revetment coupled with a series of T-groins (breakwaters 200 feet offshore and connected to shore by causeways 1.5 feet above mean sea level).

A more comprehensive erosion plan is required to protect both the highway and the recreational facilities. A $1 million sand nourishment program is recommended to augment the proposed revetment and T-groin construction. Sand nourishment will not only prevent scouring at the foot of the planned revetment, but will also compensate for an expected increase in shoreline erosion.

Moving eastward, the Isles Dernieres, located offshore from the central Louisiana coast in Terrebonne Parish, serve to protect the important marsh mainland and provide a protected haven from storms for vessels and oil development in the bay behind the island. In addition, the islands serve to establish a baseline from which the state's three-mile mineral-rich tidelands territory is measured.

The entire Isles Dernieres barrier island chain is exposed to high rates of shoreline erosion and island fragmentation. The effectiveness of the island as a buffer for severe hurricanes is being seriously undermined. Remedial measures are necessary to prevent further deterioration and potential loss of the islands altogether.

This part of the barrier island demonstration project will use several restoration techniques on the eastern portion of the Isles Dernieres. At one location there is a breach that will develop into a wider and deeper inlet if let alone. The plan calls for large rocks (riprap) to be placed across the opening up to the water level to reduce tidal flows and provide a foundation for subsequent sand nourishment. Sand will be used to build up a dune to a height of four feet.

At another location there is an active washover, and sands are washing into the bayou behind the washover. The bayou will be filled to prevent further loss of sand, a dune will be constructed, and stabilizing vegetation will be planted.

At still another location there is a former oil company holding pond, backed by retention levees. It is being filled in by the landward-moving beach. The surface water of the impounded area is over 30 acres and presumably quite shallow. It will be relatively simple to pump sediments into the pond to re-establish a portion of the islands' former land mass.

Two other projects at this site include protecting a potential breach zone and the construction of a 3,100-foot artificial dune which will extend to marsh areas flanking a washover, and the dune will be stabilized by the planting of dune vegetation.

Still moving eastward along the coast there's the Grande Terre/Cheniere Ronquille stabilization project. Nowhere along Barataria's gulf shore have coastal retreat and wetland deterioration taken on more severe proportions than at this locality.

This segment of the barrier system presently forms the weakest link in the protection of the Barataria estuary and adjacent wetlands. Shoreline retreat averages nearly 50 feet annually and is likely to accelerate in the near future as a result of eminent encounter with a series of pipeline canals paralleling the shoreline behind the present beach.

This phase of the area project calls for filling in all pipeline canals within 2000 feet of the shoreline. Fill will be placed to an elevation of one foot above mean sea level and revegetated. This will prevent the canals from functioning as a sand sink when shoreline retreat places the canal location within the area of washover deposition.

To reduce further breaching of the barrier and maintain available sand along the shoreline, waterbodies in the immediate proximity of the shoreline should be filled. It is recommended under the project plans that fill be extended a minimum of 500 feet landward from the present shoreline.

The death knell for large portions of the Louisiana coast was sounded by earth-moving equipment when man began to harness the Mississippi River and its tributaries in the name of flood control.

Under the plan for this area, existing breaches would be sealed. Rock dams would be utilized for this purpose.

One of the areas selected for freshwater diversion and marsh building is the Pass a Loutre Wildlife Management Area, owned by the Department of Wildlife and Fisheries.

The area is generally bounded on the north by Pass a Loutre and on the southwest by South Pass. Southeast Pass divides the wildlife management area into two distinct sectors. The northern sector is dominated by the shallow open waters of Blind Bay, while the southern sector is composed of ponds, broken marsh, and the minor passes of the deteriorating Garden Island Bay subdelta.

Around 1890, the vast majority of the area now making up the management area was composed of the shallow waters of Garden Island Bay. In 1891, a crevasse occurred in the natural levee between South Pass and Southeast Pass, initiating a turbulent flow of river water and sediments into the bay. After the initial infilling of the bay, land began to emerge at the rate of 480 acres/year.

The rapidly accreting subdelta was recognized as state land by the 1921 Louisiana Legislature, and the legislature set the area aside as public shooting grounds, the beginning of the present wildlife management area system.

Through examination of published studies, historic maps, charts, and an examination of the effects and benefits of the existing Bayou La Moque freshwater diversion, critical hydraulic parameters essential to the development of a subdelta will be calculated.

Personnel of the department's Refuge Division will be closely involved in the site selection process to ensure that the project fulfills the expectations and goals of the Coastal Protection Task Force and the Department of Wildlife and Fisheries.

When the most promising sites on Pass a Loutre have been identified, a plan will then be formulated to optimize the existing conditions primarily through excavation and redeposition of sediments. The engineering plan will be designed so that once a flow is initiated, each diversion will maintain itself as a distributary of the river until it has built a subdelta of the size desired.

The implementation of the plan is expected to require one year. Supervisors from the department will monitor the progress of the work to make certain that project specifications and schedules are met. Construction work can be handled in-house using personnel and equipment of the department.

The major freshwater diversion project recommended by the governor's task force, and subsequently approved by the governor and the legislature, is the Caernarvon freshwater diversion project (Big Mar). It had originally been recommended for construction by the Corps of Engineers, the Department of Wildlife and Fisheries, and the U.S. Fish and Wildlife Service, and has been authorized by the Congress. It is ready for design and construction. Now state assurances and funding have been secured.

With funding to be provided on a 75/25 federal/state matching basis, the project has been scaled down from some $20 million to approximately $13 million.

The structure is proposed to have a maximum controlled flow of 6,000 cubic feet per second and to be similar in size to the existing Bayou La Moque structure.

Freshwater from the Mississippi River will be introduced into an intermediate/brackish marsh to reduce salinities to approximate those occurring during years of high rainfall. A large area will benefit from the salinity reduction, including the Department of Wildlife and Fisheries' main oyster seed grounds east of the Mississippi River where the salinities should be maintained below 15 parts per thousand to retard the predatory oyster drill. Habitat for many wildlife commercial species will also be improved.

In 1965, the U.S. Army Corps of Engineers completed a study of the need for supplemental surface water in the Teche-Vermilion basins in Louisiana. The area studied is in southcentral Louisiana adjacent to and west of the Atchafalaya Basin floodway. It is contained within the six parishes of St. Landry, St. Martin, Lafayette, Vermilion, Iberia and St. Mary.

The Ruth Canal, located about two miles south of Breaux Bridge, is a controlled water link between the Vermilion River and Bayou Teche. It was constructed in the early 1920s by a private company to supply additional water along the lower Vermilion River for rice irrigation.

During the formation of the Teche-Vermilion project, the Corps of Engineers anticipated that the canal and the regulating structure would continue to be available as an integral part of the supplemental water supply system.

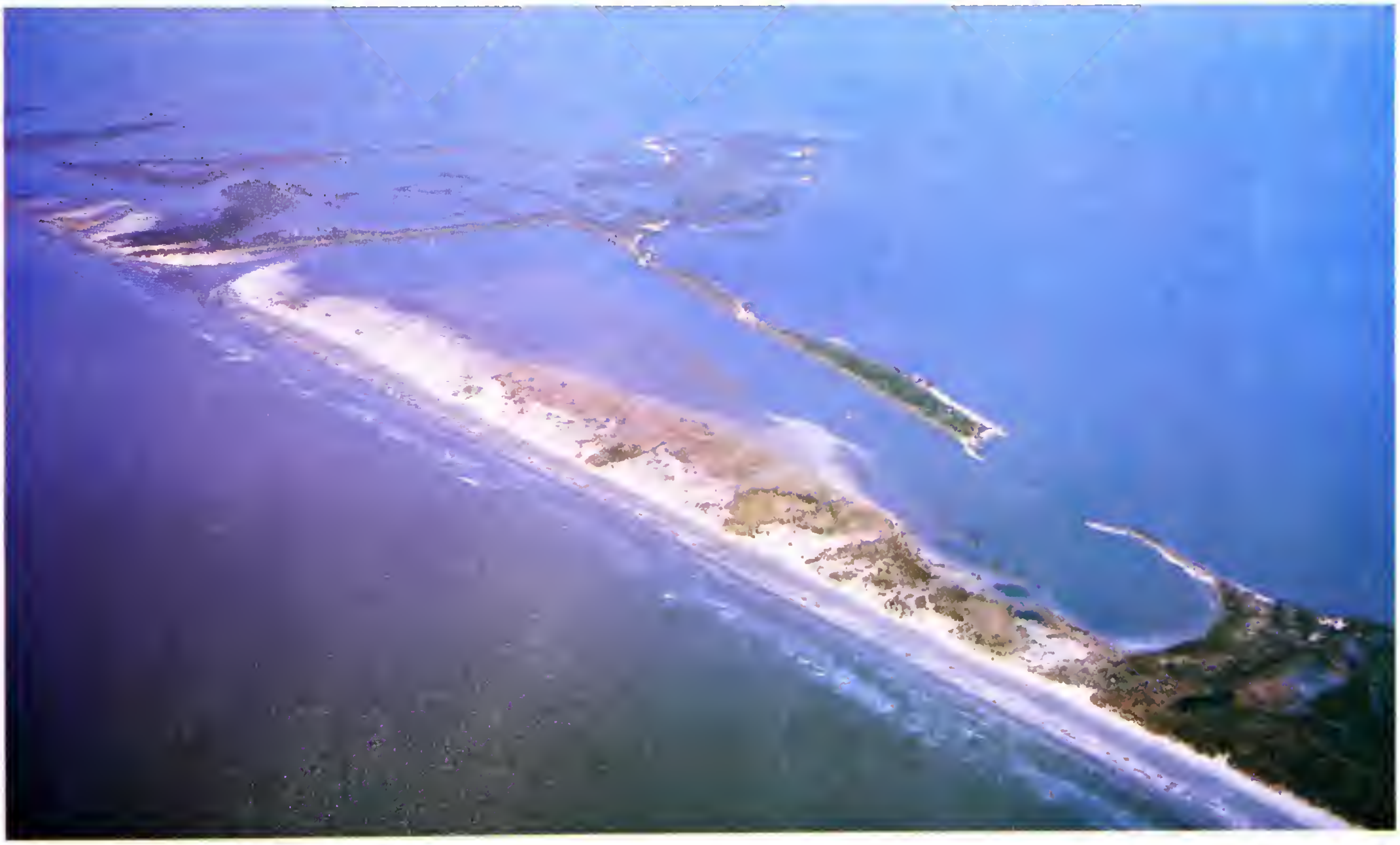
Recently the owners, Evangeline Canal Company, discontinued its use and began disposing of its properties and other assets. This necessitated recommendation of the task force that the state buy the Ruth Canal which the multi-parish Fresh Water District was unable to afford.

The entire project for improvement of the coastal environment is funded 95/5 with federal/Fresh Water District funds.

These are the main programs in the demonstration projects being put into motion by the Coastal Protection Task Force. In themselves, they do not amount to any magic cure for the ills that have resulted from man's use and mis-use of the Louisiana marshes.

At best, the success of the demonstration projects during the next few years will establish guidelines for a large scale program of action along the coast to preserve and enhance what remains of priceless wetlands. There is a crisis on the coast and a task force has acted.

Editor's Note: The following individuals served on the technical work committee of the Coastal Protection Task Force: Steve Zerangue, Division of State Lands, DNR; Joel Lindsey and David Chambers, Coastal Management Section, DNR; Johnny Tarver, Barney Barrett and McFadden Duffy, DWLF; Arthur Theis, Office of Public Works, DOTD; Bill Jack, Office of Highways, DOTD; Virginia Van Sickle, DNR; Jerry Duszynski and Janet Smith, DNR; Phil Pittman, Jim Massey and Steve Chutz, DNR; Richard Bennett, DOTD.



Several restoration techniques are planned for the Isle Dernieres, located offshore from the central Louisiana coast in Terrebonne Parish. In the island pictured, large rocks will be placed across a breach (upper right) and the central area will be filled in with sand and planted with stabilizing vegetation.

THE WILD TURKEY: A

True American

By Judy Hughes

How the name "turkey" got to be an insult is a mystery, but there's no question that the wild turkey is an important part of our nation's wildlife heritage. Once eliminated from much of its original range, this uniquely North American species thrives today throughout the country, with spring gobbler seasons held in forty-three states. Wild turkey hunting is fast growing in popularity, but bagging one of these elusive, wary creatures requires infinite patience and skill and the ability to "cackle," "pit," and "gobble."

Why is the word 'turkey' used to describe someone who is clumsy, incompetent or foolish, when the wild bird by this name is a most wary, crafty and noble creature? Perhaps the insult refers to the dumpier, short-legged birds most of us eat at Thanksgiving, Christmas and other times throughout the year—the domestic, farm-reared turkey. The two are not the same animal. The birds we stuff during the holidays are descendants of creatures domesticated sometime around the birth of Christ, and over the centuries they've lost the instincts and the grandeur of their wild counterparts.

There is some confusion over the origin of the wild turkey. Wild turkey stocking efforts around the country in recent decades have led some people to believe it is an exotic species. Judging from its name, you'd think it came from a certain western Asian country. And since the early European settlers are said to have brought domestic turkeys with them to America, one might assume wild stock existed in the Old World.

Well, early settlers did bring domestic turkeys with them to America and wild turkeys have been stocked throughout the United States, but in both cases the birds were simply brought back to their original home.

Lloyd Poissenot

During mating time, the male turkey's head turns a very patriotic red, white and blue—not the only reason Benjamin Franklin nominated the wild turkey as our national bird.

The turkey is a uniquely North American species. An estimated ten million wild turkeys roamed the continent long before white men ever set foot on Plymouth Rock. There are two living species of wild turkeys: *Meleagris gallopavo* in the United States and Mexico, and *Meleagris ocellata*, a smaller turkey of southern Mexico and Central America. Other species, now extinct, once lived in North America but none existed anywhere else in the world. Today there are six subspecies of *Meleagris gallopavo* with the eastern wild turkey being the most abundant, ranging from the Midwest to the Atlantic seaboard.

Although North American Indians hunted the eastern wild turkey for its meat and feathers, they never domesticated this bird. Rather, a subspecies of turkey in Mexico was domesticated by the Aztec Indians and was one of the first 'treasures' brought back to Europe by Spanish conquistadores in the early 1500s. This is apparently when the turkey got its name. The word 'turkey' was in use in Europe to describe any peafowl, or any large bird that spread its tail. As soon as the birds brought from the New World fanned their tails they were given the same common name as the other peafowl of Europe. Europeans enjoyed the meat of these new birds and by 1540 Europe had a thriving population of domestic turkeys.

It was almost a hundred years later that New England settlers brought the domestic turkey back to the Western Hemisphere, to a continent already abundant with native wild turkeys. Fortunately, there was no mixing of blood between the domestic immigrants and the native wild birds. The two can mate, but the offspring have little instinct for survival and in the wild they quickly succumb to Mother Nature's hardships, predators, or poachers. Hence, wild turkeys today are just as beautiful and wild as when the Pilgrims first saw them.

Historical accounts describe the early tame turkeys from Europe as puny, saying the wild birds of America surpassed the domestic turkey in stature, size and beauty. Today, however, domestic turkeys are reared to be quite large and plump to enhance their eating appeal to the American public. While a wild turkey stands four feet tall when fully grown, has a somewhat elongated body and can weigh a little over twenty pounds, a domestic turkey is shorter-legged, has a more robust body and nowadays is bred and fed 'til it weighs much more than its wild cousin. Wild and domestic turkeys can usually be easily distinguished by their body coloration. The body feathers of the native eastern wild turkey are a beautiful iridescent bronze and the terminal band on the tail is brown; domestic turkeys have blackish body feathers and a white terminal band on the tail.

With its large size, striking iridescent features, and proud gobbling and strutting at mating time, the wild turkey is one of the most impressive creatures of our nation's woodlands. So impressed was founding-father Benjamin Franklin that he nominated the wild turkey as our National Symbol to be depicted on the Great Seal of the United States when it was being designed in 1782. The turkey certainly seems like it was an appropriate candidate: not only is it a strong and handsome native American bird, but during the mating time in spring, the male's nearly featherless head turns a very patriotic red, white and blue.

Although it did not become our national bird, the turkey has been an important American eating tradition ever since local Indians brought eastern wild turkey as their share in the first Thanksgiving feast with the Pilgrims in 1621.

Like the bald eagle which was chosen as our National Symbol, the wild turkey's existence in North America became seriously threatened following white man's colonization of the continent. Not only did the early settlers hunt wild turkey year 'round for food, they continually eliminated wild turkey habitat as towns, cities, agriculture and industry expanded across the country. By the late 1800s the wild turkey had been eradicated from much of its original 39-state range. It's estimated that the original wild turkey population of some ten million was reduced to a mere 30,000 birds in scattered groups by the end of World War II.

Thanks to the concern of hunters, conservationists and wildlife managers, the wild turkey made a tremendous comeback in one of our nation's most dramatic wildlife management success stories. Wild birds were trapped and restocked throughout their original range and in additional suitable habitat as well. Today the National Wild Turkey Federation estimates there are two million wild turkeys nationwide; they now live in every state except Alaska and spring gobbler hunts are held in forty-three states, including our own. Louisiana's restocking efforts since 1963 have been very successful and the Department of Wildlife and Fisheries is continuing its program to expand the state's wild turkey population (see Louisiana Conservationist, January/February 1982, p. 22-24).

With the success of the wild turkey restocking effort, the bird has become one of the country's most popular and challenging game animals. Probably no other form of hunting requires greater skill and stealth, for, the wild turkey is one of the most elusive and cautious of all game. A wild gobbler will spook at the most infinitesimal movement or the slightest alien sound, so hunters must be extremely still, silent and patient if they hope to be successful. And they must become expert turkey callers to lure a gobbler into gun range.

Ask a child of five how he would call a turkey and he'll surely give you a good ol' "gobble, gobble, gobble." But that's only a small part of the varied vocabulary of the wild turkey. Besides the gobble, wild turkeys have three or more kinds of yelps, a 'cluck,' an alarm 'putt,' a high-pitched 'kee-kee' (sometimes referred to as whines, whistles, and squeals), a 'cackle' and a 'cutt-cutt,' a one-, two- or three-syllable 'pit-pit' also called the 'whit' or 'quit,' and a quiet purring. Whew! Turkey hunters and researchers will tell you that each of these turkey sounds has a different meaning among turkeys and many of them are calls hunters should learn to imitate in order to lure a gobbler to the gun. Many hunters call turkeys with their natural voices, but there are also a wide variety of mechanical callers available to use in the mouth or hand. Right before the opening of the spring gobbler season it's quite common to hear an array of 'cackles,' 'gobbles,' and 'putts' in hunting camps, homes and office building hallways as enthusiastic turkey hunters practice talking turkey.

Turkey hunters or anyone who has studied turkeys in the wild might consider being called a 'turkey' a compliment, for these birds have many admirable qualities. They have keen eyesight and hearing, are resourceful and wary, have much stamina, and are physically tough. In the northern United States wild turkeys endure subzero winter temperatures for days on end and can survive without food for twenty-four days while losing over fifty percent of their body weight. And the turkey's ability to escape and survive after being shot is considered among hunters to far exceed most other game birds.

Most of the turkey's characteristics that we judge admirable are natural, wild instincts that enable the bird to survive. Researchers have found that wild turkeys do not have the kind of intelligence that enables them to learn very much. And they have a hard time dealing with some of man's additions to their world. They are easily baffled, for example, by a woven wire fence: they will walk up and down one trying to find a way through, sometimes for hours, without realizing they could simply fly over the fence. Perhaps this is how the insulting use of 'turkey' got started.

Turkey hunters and wild animal appreciators will assert to the end, however, that the insult comes from domestic turkey poults which, it is said, are so foolish they will hold their heads up in a rain storm and drown themselves.

Despite its reluctance to hop fences, the wild turkey in its natural environment deserves much respect for its wildness and its beauty. The success of restocking programs around the country has allowed wild turkey populations to reach harvestable sizes, and in many areas their numbers are still growing as a result of continued stocking and as the birds naturally expand into new territory. Habitat loss is a constant threat to the wild turkey in our nation, as it is for all wildlife, but with continued public awareness of wildlife needs and the increasing popularity of turkey hunting, the wild turkey's contribution to America's wildlife heritage will not be written in the history books only. Now and in the future, this true American bird will continue to gobble and strut throughout the nation's woodlands and more and more Americans will grace their holiday tables with the wild bird.

Dave Moreland

Today, domestic turkeys are reared to be large and plump, but in the many centuries since their domestication in Mexico, they've lost the instincts and the grandeur of their wild counterparts.

Look Listen & List

By Judy Hughes

Photography by Bernard Berry

Scarlet Tanager

Hooded Warbler

Red-headed Woodpecker

Red-eyed Vireo

"Birds, not rooted in the earth, are among the most eloquent expressions of life." This is the thought of renown birder Roger Tory Peterson, and perhaps this explains why bird-watching is one of the fastest growing pastime interests in America. Of all places, Louisiana offers one of the best opportunities to pursue this fascination with the feathered creatures of our world.

We crept through the brush. Quiet. Peering carefully in the morning's low light. Searching for movement. Ears perked for sound. And then, there it was, twenty yards ahead, our quarry. We all took aim.

But no shots were fired, no arrows flung, just the important question asked: "Does it have a yellow rump?"

We were Esther Beckham, Bill Will and myself, out for an all day "hunt" of sorts. Our only gear: binoculars and field identification guides. Our quarry: birds. We were out to identify and count all the feathered friends we could find as part of the Baton Rouge Christmas Bird Count (CBC) on January 2 of this year.

While we covered our designated area along River Road, thirty-nine other volunteers were searching other parts of the 15-mile diameter circle that encompassed the Baton Rouge CBC. This was just one of the some 1,400 CBCs conducted throughout North America in the two week period from the weekend before Christmas to the weekend after Christmas.

When our dawn to dusk search was completed, our list of bird species and numbers would be sent to the National Audubon Society, which each year compiles and publishes the results of the many CBCs held throughout the continent. It is the only comprehensive annual assessment of the populations and distributions of all bird species on a continent-wide basis.

Knowing this, I felt important as I peered through my binoculars that morning at the tiny creature and was able to see clearly the bright yellow rump patch, identifying the bird as a yellow-rumped warbler. Esther, Bill and I went on that day to tally hundreds of grackles and red-winged blackbirds, two rufous-sided towhees, many ruby-crowned kinglets, vesper sparrows, red-tailed hawks, American kestrels, and 22 other species of birds, large and small. In all, the Baton Rouge CBC participants tallied 33,354 birds of 106 different species this year in the 15-mile diameter circle.

"The 106 species sighted this year was about average compared to the

Red-winged Blackbird

Summer Tanager

Judy Hughes

pair of binoculars is about the nly equipment needed to start a fe list and a life-long love affair ith birds.

Painted Bunting

Eastern Bluebird

Purple Martin

Rose-breasted Grosbeak

Prothonotary Warbler

Baton Rouge CBCs of the past six years," says Gene Beckham, who, along with his wife Esther, was compiler-coordinator for this year's count. "The Baton Rouge counts have ranged from 103 to 119 species."

According to Gene a record number of people (42) participated this year—the highest number of participants in the Baton Rouge CBC previously was around 20. The other 17 CBCs held in Louisiana also had above average or record participation this year. This may have been a result of good recruiting efforts, but there's no doubt it's also a reflection of an ever-increasing interest in bird-watching in Louisiana as in the rest of the country.

The annual Christmas bird counts are the ultimate in "looking," "listening," and "listing," for, the goal is to record all and every bird possible in the one-day period in the designated circle. But bird-watching, or birding, as many now call it, doesn't have to be that intense. For most people, birding is a relaxing, enjoyable, leisure-time activity. And, it's an activity that's one of America's fastest growing pastimes.

The number of birders in America is growing at a dramatic rate. Bird-watching has become a multi-million-dollar-a-year industry—with money being spent on binoculars, bird books, gasoline for birding ventures, and on bird houses, feeders, and bird seed.

Why is birding so popular? Probably because it's easy to get into—it doesn't require much prior knowledge or skill. It's inexpensive—the only equipment needed is a good pair of binoculars and a bird identification guide. And you can do it anywhere and to any extent—you can watch birds in your back yard without even leaving your house, you can take short strolls through nearby parks or gardens, or you can travel far and hike high in pursuit of birds.

But these aren't the only reasons why people bird-watch. There also is some magic attraction people have for birds once they recognize their beautiful colorations and markings, their intriguing habits, and their fascinating array of songs and calls.

Part of the enjoyment of birding comes from learning to identify the many species of birds. Once you get past the familiar blue jays, robins and cardinals, this can be quite a challenge, for, while there are around 400 species of mammals in North America, there are over 800 species of birds. In Louisiana, where there are only 70 kinds of mammals including man, there are around 425 species of birds. And, whereas mammals vary greatly in size and shape (consider a mouse versus a whale, or a deer vesus a bat), birds are basically all of a similar physical form, making them more difficult to identify. The fact that many birds change their plumage colorations during different seasons of the year doesn't help either.

Judy Hughes

Many people find the best way to learn birds and enjoy the sport is to join a birding club or organization. In a group, beginners and veterans alike can benefit from the knowledge of the others and share the rewarding experience.

An increasing number of those who enjoy the challenge of bird-watching are keeping track of the birds they see with *lists.* The lists may be of birds seen on a particular trip or in a particular year. The most dedicated birders keep a *life list* which is, as its name indicates, a list of all the birds seen by a birder in his or her lifetime. Keeping a life list is part of the fun of birding and makes the activity a kind of game—the joy of the birding game increases with each new species added to the list. In addition to a simple list of species, serious birders also record other pertinent information about the bird species they see—location, date, habitat, weather, the bird's activity, etc.

Louisiana is a great state for listers, for bird watching in general. More than half of all birds known to occur regularly in North America have been recorded within Louisiana's borders. Only six states (Texas, California, Arizona, Colorado, Florida, and New Mexico) have longer state birds lists.

There are many reasons why birds abound in Louisiana and make our state a birding paradise. Perhaps most important is that Louisiana lies at the crux of the great Mississippi Valley migratory flyway, and the vast Central migratory flyway crosses the state's southwestern corner as well. Because of this location, millions of birds pass through our state each spring and fall. Northern nesting birds come to our mild climate to spend the winter, others rest on their way to points further south and visit again on their way back north in spring.

Louisiana collects more migrating birds than other southeastern states because of its strategic east-west location. During migrations, it receives nearly all of the species of the eastern United States and at the same time draws a number of the western species from the Great Plains and Rocky Mountain regions.

Along with the seasonal visitors, Louisiana's variety of habitat supports a variety of resident birds. Our state—blessed with vast wetlands, seemingly endless lengths of rivers and bayous, treeless grassy plains, and an assortment of forest types—has favored habitat of both wetland and dryland avian species.

Cameron Parish, because of its location in the southwest corner of

Louisiana and its wide range of habitats, from beaches to forest, is a particularly splendid birding territory.

"Cameron Parish is one of the most interesting places to look for birds in the entire world," says Dr. John P. O'Neill, noted ornithologist at LSU in Baton Rouge, who has studied birds in North and South America. "There is access to woods, ponds and marsh, and one of the greatest concentrations of birds found anywhere."

A number of the birds on Louisiana's state list have been seen only in Cameron Parish, according to Dr. O'Neill. In 1982, for example, a Williamson's sapsucker was spotted in Cameron Parish. This was the very first time this Rocky Mountain woodpecker species had been seen in our state. Also, the blue bunting (not to be confused with the indigo bunting), which occurs normally throughout eastern Mexico and into Central America, has been seen in Cameron Parish but nowhere else in Louisiana or the rest of the United States except Texas.

Unusual sightings do not just happen in Cameron Parish. About twenty years ago a fisherman in Lake Pontchartrain caught an ancient murrelet, a seabird that lives normally off the Pacific Coast.

It's sightings like those of the Williamson's sapsucker, blue bunting and ancient murrelet, seen where they were not expected, that makes birding so intriguing and enjoyable. When a bird shows up a great distance from where it belongs it is to the delight of birders who can't afford to go the distance to the bird's natural territory. What these "accidental" birds are doing so far off course often remains a mystery.

You never know when you might ee an "accidental" or rare bird in our tate, but you first have to be familiar with Louisiana's normally occurring pecies. Most people begin by getting o know the birds in their own neighborhood or place of work. New birds are learned when visiting other parts of the state. To learn the names of and distinguish among the many different bird species, it's absolutely necessary to have a field identification bird book. It's hard to find a bookstore oday that doesn't carry the popular Peterson's field guides to birds, the Audubon Society's field guide or others hat are available. A good pair of binoculars is a must too, since birds are small and will not let you get close enough for study with the naked eye.

An increasing number of people are finding the best way to learn birds and enjoy the sport is to join a birding club or organization. Most people are familiar with the Audubon Society and associate it with bird-watching in America. Although birding is not the sole purpose of this national conservation organization, it is certainly one of its primary interests. Baton Rouge, New Orleans, and Natchitoches have active Audubon groups that lead bird walks for members and other interested persons. There are other birding clubs and nature study organizations in the state that offer birding trips and programs such as the Terrebonne Bird Club in Houma and the Shreveport Society of Nature Study. Most parish tourist commission offices or city chambers of commerce have information about birding and nature study groups in their areas.

Birders around the country recognize Louisiana as a birding hot-spot and many visit our state specifically to enjoy the abundant and varied bird life. To assist both native and visiting birders, the Louisiana Office of Tourism distributes two birding tour booklets, one of southeast Louisiana the other of southwest Louisiana. The booklets are available free of charge from the Office of Tourism, P.O. Box 44291, Baton Rouge, 70804.

The southeastern tour book takes birders from Houma to Lake Boudreaux, on to Isle de Jean Charles and Grand Bois Park and ends up at Grand Isle Park. Depending on the time of year, birders on this route can see purple and common gallinules, groove-billed ani, soras and Virginia rails, black ducks and mottled ducks, snowy plovers, piping plovers, wilson's phalaropes, ruddy turnstones, and quite a number of other song birds, wading birds and shore birds.

On the southwestern tour, birders are guided from Lake Charles to the Sabine National Wildlife Refuge, to the town of Cameron, and on to Rockefeller Refuge and Lacassine National Wildlife Refuge. On this trip one can see great blue herons, red-bellied woodpeckers, brown-headed nuthatches, western meadowlarks among resident eastern meadowlarks, blue-winged teal, prothonotary warblers, olivaceous and double-crested cormorants, roseate spoonbills, black-necked stilts, and an array of other possibilities. On these two tours alone, a beginning birder could build up quite an impressive life list.

As with most other sports and hobbies, birding skills improve with time and practice. Beginning birders can get quite frustrated when all they see is a quick flicker of movement among the leaves, while their more-experienced friend notes the narrow eye ring, white wing bars, and distinct black patch of the bird, which he of course, easily identifies.

Bird names sometimes take a while to learn, for many of them are peculiar. One beginning bird-watcher excitedly told a friend about a 'woolly' woodpecker he had seen. When the friend corrected him, saying it was a 'hairy' woodpecker he'd seen, the embarrassed fellow protested that it was a silly name for a bird anyway since none of them have any hair.

Beginner and veteran birders alike agree that bird-watching is a rewarding experience, a constant source of enjoyment and satisfaction. It's an activity that brings people out-of-doors and closer to a fascinating segment of our natural environment. And, of all places, Louisiana offers one of the best opportunities for this communion of man with nature and the feathered creatures of our world.

Gene Beckham uses a spoting scope, another piece of equipment useful in bringing birds closer for study and appreciation.

Bream Aren't Just for Kids

By McFadden Duffy
Photography by Lloyd Poissenot

The top ten in Louisiana fish records all weighed over two pounds but the average angler is content with a stringer of fish judged in ounces. Probably every angler was introduced to the sport by catching these fish. It doesn't make any difference if you call them bluegills, perch, panfish or bream, they offer pint size pleasure that is unsurpassed for folks of all ages, particularly in the spring.

Have you ever watched the intent expression on the face of a youngster threading a wriggling worm on a tiny hook, or giving the coup de grâce to a cricket in the haste to get a baited hoo in the water. I have.

And I've seen that unforgettable smile or grin of accomplishment when a cork or float bobs in the water and a four or five-ounce rainbow-hued fish is lifted from a pond or lake to be carefully strung or placed in some convenient container.

I've seen the same intentness on the faces of a lot of adults when they were fishing for bream, a determination of purpose that melts into unchecked pleasure with each additional bluegill that's added to the day's catch.

It doesn't make any difference if a person is four and freckled or sixty and silvery of hair, there's something downright satisfying about a springtime session with panfish.

Bream are what makes youngsters grow up fast to be young anglers. They also make older folks act like kids come spring. They're universal favorites.

Probably one of the most popular panfish in the country is the bluegill. It's a favorite in Louisiana, too, and the Department of Wildlife and Fisheries produced over 2,273,500 bluegill and redear fingerlings at its hatcheries last year.

Bluegills vary in color more than any other sunfish, with the basic body color ranging from yellow to dark blue. Adults can be distinguished by a broad, black gill flap with no trim. Because of its use in stocking farm ponds, it has been introduced and does well in most states.

These panfish prefer quiet, weedy waters where weeds provide cover. Characteristically, the smaller fish are close to shore in the daytime, loafing in the shade of overhanging branches. The larger fish are usually in deeper water, moving into the shallow areas in early morning and late afternoon to feed.

Bluegills are readily caught on almost any small artificial or natural baits. They bite best in the mornings and late afternoons, but there are always a few hungry ones around to be tempted at mid-day.

Whether a person is four and freckled or sixty and silvery of hair, there's something downright satisfying about a springtime session with panfish. A small pond in a park or a neighbor's backyard offers an ideal setting for bream fishing.

Redear sunfish, produced in great numbers by the department along with bluegills, are popular panfish throughout the deep South. Down Florida way they are called shellcrackers and stumpknockers. Even folks in neighboring Mississippi call them shellcrackers, but in southeast Louisiana they're called lakerunners. In other parts of the state they're known as chinquapins. In a few agricultural areas they are still called "government brim" because federal hatcheries turned out so many of them for stocking farm ponds.

In coloration the body varies from bronze to blue-green with darker spots. The gill flap has a whitish border, with the tip accented with a bright red spot on the males and orange on females.

One reason that the redears were widely stocked by federal hatcheries is that these fish were believed to be less prolific than bluegills and less likely to become stunted because of overcrowding.

There's another characteristic worthy of mention. Redear sunfish are not as competitive with bluegills for insects as some other panfish. They depend largely on mollusks for food and have well developed grinding teeth or "shellcrackers" located in the throat which do a quick job on snails, a favored food. Hence the Florida name for this species.

Fishing redears when they are concentrated in a farm pond is far different from going after them in big, open waters where they are widely distributed in the waters in which they occur. In the big open lakes and river systems they show up in quantity in the catch only in the spring spawning season when anglers find them in the "beds".

A real favorite is the goggle-eye. Actually it's the warmouth, a thick-bodied panfish that has a large mout and red eyes. It prefers dense weed beds and soft bottoms, but when tha habitat isn't available they usually hang out around stumps. They have high tolerance for muddy water and w be found in some places most anglers would overlook.

Another favorite is the longear sunfish. It is a brightly colored panfis easily recognized by the exceptionall long, flexible gill flap which is thinly bordered with scarlet. it prefers clear weedy streams or ponds. Its food is primarily aquatic insects, crustaceans and tiny fish, but it readily takes sma artificial lures or spinners.

Rounding out the list of popular panfish in Louisiana are the crappies. Both white and black crappies are found in the state, and under ideal conditions reach larger sizes than any the other panfish.

In south Louisiana, crappie are generally referred to as "sac-a-lait" which is French for sack or bag of mil a somewhat colloquial name that cou have referred to the silvery whiteness of the sides of the fish, predominantl visible in spite of other coloration.

This could also explain why many persons in Louisiana, particularly in non-coastal parishes, refer to crappie as "white perch".

When it comes to tackle for bream fishing, even adults who sing the praises of fine spinning and casting ge or who chant the satisfaction that a whippy flyrod can provide forego th sophisticated equipment.

Bream fishing is an earthy sort of angling and folks have to mentally roll up their sleeves to fully appreciate it. For adults, too, there's a nostalgia associated with bream fishing that's akin to squirrel hunting by persons who long ago graduated to bigger game, sometimes in distant places. Their fishing experiences started with bream, and there's always a latent desire for a return engagement.

Just as a seasoned hunter who has become an accomplished deer and turkey hunter and savored the satisfaction that waterfowling for ducks and geese can bring is irresistibly drawn to an old familiar wooded area on opening day of the squirrel season, so do anglers seek springtime renewal by fishing bream.

Cane poles, or any plastic store-bought version of the common fishing pole, are ideally suited for bream fishing. They are easier to handle than casting rods, spinning tackle, or flyrods. This is particularly true when bank fishing for bream.

Use of a cork or float is optional but most bream fishermen favor a bobber of some type. It signals the nibbling that often precedes mouthing or swallowing of a bait.

When it comes to baits, let it be repeated that bream will take many standard, small artificials. They'll hit them eagerly when some lifelike movement is given to the artificials, but natural baits go hand in hand with spring bream angling.

The garden variety of worm makes an excellent bait for any of the species of panfish we're dealing with. Grubs, catalpa worms, crickets and grass shrimp make excellent baits. When I was a youngster we'd dig our own worms and we knew the productive places to dig. Today, worms come in relatively cheap containers that can be picked up as easily as crickets at many sporting goods outlets.

The fact that some folks have built substantial and relatively profitable businesses out of mass-producing worms, crickets and catalpa worms in season is further proof that bream aren't just for kids.

Grass shrimp are abundant in many freshwater ponds. They're usually found hiding in the roots of shoreline vegetation. A small, fine-mesh scoop net pulled along the shore will usually produce enough grass shrimp to keep a person busy fishing bream.

Use small hooks for bream. Because different manufacturers use varying designations for hook sizes, I won't recommend a size by number. Use a hook with a shank not more than ¾ inch and a throat not more than ¼ inch. You'll catch more panfish with that size.

What does one do with the catch? A mess of bream is the basis for one of the most satisfying fish fries possible. Clean the fish, scales and insides. You can remove the heads or fry them whole like small mountain trout.

When you have a platter of them, crisp and golden brown, gather at the table and enjoy them. There are bones aplenty and picking fried bream sometimes makes one think of crawfish boils or picked boiled blue crabs. It's slow and tedious, but those tempting morsels add up to a pleasure that's hard to beat.

If there were youngsters involved in the fishing effort, the proper homage and ceremonial acknowledgement paid the catch will bring them even greater pleasure at being so lucky.

If there are no younsters involved, simply enjoy yourself. I told you at the start that bream aren't just for kids.

When it comes to baits, bream will take small artificial lures, but natural baits like grass shrimp (left), crickets (center) and worms, go hand in hand with spring bream angling.

Lloyd Poissenot

NEW LIFE FOR Wounded Wings

By Joyce LeBlanc Richard

What help is there for a wounded hawk found on the side of the road or a sick owl found by a hunter or a hiker? There's help at the LSU Raptor Rehabilitation Unit in Baton Rouge where veterinary students volunteer their time to care for birds of prey who need surgery, bandaging, medicine, nourishment and a chance to regain their strength so they can once again live in the wild.

As soon as the door to the flight cage swung open, the great horned owl spread its wings and took to the sky, free at last to resume its life in the wild.

The owl had spent four weeks in the Raptor Rehabilitation Unit at the LSU School of Veterinary Medicine in Baton Rouge recuperating from brain damage.

"The owl was found on the side of I-10 around Airline Highway," explains Sharon Hoffman, president of the student chapter which cares for the raptors. "It had been hit by a car and was brought in by the brother of a student here at the unit. Because it had brain damage, we had to force feed it until it was able to eat on its own."

The unit, which opened in the fall of 1982, is the result of more than four years of planning by Dr. W.S. Bivin of the LSU veterinary school and John D. Newsom, assistant secretary of the Louisiana Department of Wildlife and Fisheries and former leader of the Cooperative Wildlife Research Unit at LSU. The purpose of the rehabilitation unit is to aid raptors, or birds of prey (owls, hawks, and hawklike birds), that are sick or wounded. Injured birds brought to the unit are nursed back to health, rehabilitated and released back into the wild, if possible. Students who work in the unit are members of the student chapter of the American Association of Zoo Veterinarians.

"The Department of Wildlife and Fisheries supplied the materials and labor for the initial flight cage," says Dawn Koetting, vice-president of the chapter. "Since then, we pitched in to smooth out the floor and paint the cages. Unfortunately we ran out of paint before completing the project and have no funds to buy more."

About twenty students who belong to the student chapter volunteer their time to care for the birds brought to the unit. Two students work each day to feed and take records on the birds.

"Raptors migrate to Louisiana during the fall and winter, although some, like the southern bald eagle, nest here also," says Koetting. "As the weather gets colder, you'll see more and more hawks and owls along the side of the road. By the middle of winter there will be a hawk every quarter mile sitting on a telephone pole."

"During hunting season, we see owls and hawks with hunting injuries, usually bullets," says Hoffman. "They also get hit by cars all the time, but mostly during migration. Often when they are found on the side of the road, people do not know where to bring them. Many are taken to the zoo, but the zoo does not have the facilities and workers we have to care for them. Veterinarians who get raptors at their clinics usually refer them to us."

Most of the birds that are brought to the unit have broken wings and cannot fly, according to Hoffman. Others have brain damage and occasionally some have broken legs. Since the unit opened, more than fifty birds have been admitted.

"An eagle was brought in several months ago," Hoffman says, "It was permanently crippled and could not be released, so it was taken to the Baton Rouge Zoo, where it is on exhibit."

Lloyd Poissenot

LSU veterinary student Sharon Hoffman holds a barred owl being cared for at the Raptor Rehabilitation Unit. The red-tailed hawk (opposite page) flexes his wings in the unit's flight cage before its release back into the wild.

Dawn Koetting

Capturing a wounded hawk or owl can be a dangerous proposition. A towel and a cardboard box are useful items for the protection of both the bird and the handler. Here, a barred owl peers out from a box after its successful and safe capture.

The unit at LSU works closely with both the Baton Rouge Zoo and Audubon Zoo in New Orleans. Anne Orlowski Tappan, head of the Wild Bird Rehabilitation Center at Audubon Zoo, has conducted training programs for the LSU students who work in the unit, and she has come to Baton Rouge to use the unit's facilities.

Often raptors that are brought to zoos in the state are sent to the LSU rehabilitation unit for proper care. If people would bring the birds directly to the unit, explains Koetting, it would result in less stress for the birds than if they go through several hands before coming to the unit.

"People need to be careful when capturing an injured raptor," warns Koetting. "Should someone find a hawk or owl on the side of the road or in their yard, he should first throw a towel over the bird. Birds react to this by huddling up—when the bird can't see the person, it thinks the person can't see it. He should then scoop up the bird and get its legs in his hand through the towel. The towel keeps the bird in the dark and keeps it still so it won't flap its wings and further injure itself.

"The bird should then be put in a dark box or other dark, sealed container with air holes," continues Koetting. "Basically, keep it in the dark and put it in something that is not too big and has flexible walls to prevent injury to the bird's wings.

Some people who have tried to help raptors have been seriously hurt by them. Birds have dug their talons into the hands of people who handled them without gloves. Since the talons are curved, sometimes the only way to get them out of the person's hand is to anesthetize the bird."

Because raptors can be dangerous, all students who work with them take a short course on how to handle them using gloves and towels. Leather gauntlets (protective gloves with high cuffs) must be used at all times. The larger the bird, the longer the glove should be. Raptors' beaks are very sharp, but they are not nearly as dangerous as the bird's feet with their well-sharpened talons.

All raptors are protected by federal and state laws because some of them are endangered or threatened species. It is against the law to own a raptor or any part of one. Raptors fall under the jurisdiction of the federal government and no one can keep one without a license issued by the government. People who bring in a raptor to the unit must sign it over to the LSU raptor rehabilitation unit.

"When a bird first comes in," says Hoffman, "a fourth-year student will admit it and give it a physical examination. The bird is hospitalized in the LSU veterinary school's small animal clinic until it undergoes surgery, receives a splint, has its wound bandaged, its wings pinned, or is X-rayed.

"It is then transferred to the raptor rehabilitation unit, where it receives further medical treatment and care until it can be released into the unit's large flight cage. It remains here until it is able to perch, fly and catch its own food."

Unlike many other raptor rehabilitation centers, LSU's unit provides live rodents for the raptors. During the early stages of treatment, when the birds may be unable to feed themselves, they are fed a special bird of prey diet, but when the birds are placed in the flight cage for their final days of rehabilitation, they are given live rodents. The rodents are placed in an open box inside the flight cage, so the birds can catch and eat the rodents on their own. Dr. Bivin feels it is important for the recuperating birds to have a chance to practice or re-learn how to catch live prey as they would normally do in the wild.

At the LSU small animal clinic, the barred owl is given a shot of an anesthetic in preparation for surgery.

Dawn Koetting

Treatment for raptors at the center does not cost anything to someone who finds an injured raptor and brings it to the unit. For every bird brought in, the students do all they can to rehabilitate the bird back to a condition that will allow it to be returned to the wild. All birds are released on advice from and in cooperation with the Louisiana Department of Wildlife and Fisheries.

"It's in the bird's best interest to return to the wild," says Koetting. "That's our ultimate goal, to try to rehabilitate it so it can be released and live out the rest of its life in the wild."

Editor's note: Joyce LeBlanc Richard is a journalism student at LSU in Baton Rouge and has published articles in the Baton Rouge "State Times" and LSU's "Reveille." She is a first-time contributor to Louisiana Conservationist.

RAPTOR REHABILITATION UNIT SEEKS FUNDING

by Judy Hughes

The Raptor Rehabilitation Unit associated with LSU's School of Veterinary Medicine in Baton Rouge is less than one year old but its future is already threatened by a lack of funds.

"There was financial support to get the program off the ground," explains Dr. W.S. Bivin of the LSU veterinary school, "but now we are in desperate need of funds to keep the program going."

While there are other programs in Louisiana servicing the needs of wounded or sick raptors, including the zoos in Baton Rouge, New Orleans, Alexandria and Monroe, the Raptor Rehabilitation Unit at LSU is the first program established to coordinate state-wide efforts.

"The raptor unit at LSU has the important advantage of being tied in with the School of Veterinary Medicine," says Dr. Bivin, "where students are trained to care for raptors and are available to work in the unit."

According to Dr. Bivin, other major raptor rehabilitation programs around the country are similarly associated with large veterinary schools.

The LSU unit, like other raptor rehabilitation centers, provides a vital service to care for wounded and sick birds of prey, some of which are endangered or threatened species. The unit also serves as a source of valuable data for research on these magnificent birds of prey, birds that play key roles in the web of life and are an important part of our nation's wildlife heritage.

Unlike the other raptor centers around the country, LSU's raptor unit is on shaky grounds, financially. The LSU School of Veterinary Medicine allows the unit to use its facilities for the medical treatment of the raptors, and the Louisiana Department of Wildlife and Fisheries supplied the materials and labor for the building of the unit's 100′ x 20′ x 14′ high flight cage. Dr. Bivin and the veterinary students who work in the unit are now seeking sources of funding for the continuance of this valuable program.

Money is sought for the unit's basic needs—medical supplies and food for the birds. But Dr. Bivin and the students also have hopes of doing more than just feed and bandage wounded raptors.

"Our program here is innovative and progressive," stresses Dr. Bivin, "but we need financial support to maintain the unit and develop new and better procedures for working with raptors.

"There's a great need for a blood chemistry, parasite and bacteriological data base on raptors and we have a unique opportunity to develop new orthopedic surgical techniques as well as to explore reproduction and nutrition requirements of raptors.

Dr. Bivin hopes to find a public or private agency or organization able to help the LSU Raptor Rehabilitation Unit, but is also accepting tax-deductible donations from any interested individuals or groups. Such contributions can be made payable to "LSU Raptor Rehabilitation Unit" and sent to Dr. W.S. Bivin, School of Veterinary Medicine, South Stadium Drive, Louisiana State University, Baton Rouge, LA 70803.

Conservationotes

THIS IS YOUR LAND
PUBLIC LANDS BELONG TO ALL OF US
NATIONAL WILDLIFE WEEK: MARCH 20-26, 1983
JOIN AND SUPPORT THE NATIONAL WILDLIFE FEDERATION AND STATE AFFILIATES

Wildlife Week Will Remind The Public: "THIS IS YOUR LAND"

"THIS IS YOUR LAND: Public Land Belongs to All of Us" is the theme for the 1983 National Wildlife Week, to be observed March 20 to 26. This week is the highlight of the National Wildlife Federation's year-long campaign to remind the public of its responsibilities to ensure that the public lands of America are maintained for citizens to use and to enjoy.

As an American citizen, you are part-owner of about 740 million acres of federal land (about 1/3 of the U.S.). That's an area approximately the size of India, the seventh largest country in the world. On a local level, you can enjoy the benefits of city, county (parish) and state parks that also account for millions of acres of public land.

Just what are public lands? They are magnificently beautiful areas scattered all across the United States. They include majestic mountain ranges; forests with towering trees; light-footed herds of pronghorn racing across rolling grasslands at speeds up to 60 miles an hour; long, unbroken stretches of desert dotted by flowering cactuses; and crystal clear lakes, rivers and streams teeming with fish.

Waterfowl by the millions nest or winter across these lands, and dozens of threatened or endangered species such as the Florida panther and our national symbol—the bald eagle—are dependent on these lands for survival.

Our public lands contain an abundance of natural resources—crude oil, rich top soil, thick forests of trees, valuable minerals, and open ranges where cattle and sheep graze.

Since 1938, the first week of spring has marked the start of National Wildlife Week. The 1983 theme "THIS IS YOUR LAND" was chosen to focus maximum attention on the economic, recreational, and biological importance of public lands to the people and wildlife of our country.

"Our nation's growing population and increased demands for the finite supply of natural resources have greatly intensified the need to ensure that our national treasure in public lands is effectively managed," says Jay D. Hair, executive vice president of the National Wildlife Federation.

"The responsibility of balancing the needs of humans and wildlife on public lands belongs to all Americans," stresses Hair. "The more we learn about these lands, the more fully we can enjoy their benefits and actively contribute to their wise management."

During National Wildlife Week, more than 15 million citizens will become actively involved in understanding public lands and the citizen's role in helping determine the best use for public estate. More than half a million educational kits promoting Wildlife Week have been distributed to schools and other conservation education centers throughout the country. These kits contain educational materials to help teachers, students and other interested groups explore the history, diversity and management of our public lands. "This is Your Land" filmstrips and slide shows are also available for schools, nature centers, scout troops, sportsmen's clubs and other civic organizations to use. For information about obtaining the Wildlife Week kit or audio-visual materials contact: National Wildlife Federation, 1412 16th St., N.W. Washington, D.C. 20036.

Louisiana Heron

Bernard Berry

Bird Day Proclaimed

Birders and all other outdoor enthusiasts and wildlife appreciators can officially celebrate Bird Day in Louisiana this year for the first time. Thanks to the efforts of a group of students at Nachman Elementary School in Alexandria, Gov. David Treen signed a proclamation in early February designating April 26 as Bird Day.

The third, fourth and fifth grade students in Mrs. Norma Stigall's resource class discovered while working on a tour guide for the Alexandria zoo (an impressive accomplishment in itself) that many states celebrate Bird Day on April 26, the birth date of John J. Audubon. They learned that Louisiana did not recognize this day despite the abundant bird life of Louisiana and the fact that Audubon lived and did much of his bird study and painting in our state.

Mrs. Stigall's students decided to try to have Bird Day established in Louisiana and solicited the help of Senator Edward G. "Ned" Randolph, Jr. of Alexandria. Sen. Randolph responded quickly and brought the students' idea to Gov. David Treen.

As class member Chase Berlin wrote to Louisiana Conservationist: "Our senator, Ned Randolph, helped us get in contact with the governor of our state. We presented our zoological study and reasons for Bird Day. We wrote the proclamation with our teacher's help. So April 26th will be Bird Day."

The other students who worked to see Bird Day established are Sharon White, Jamey Baker, Alison Coco, Bridgett Stanley, Darrell White, Kent Ertan, Malenda Ellis, Glenn White, Renee Bergeron, Henry Trotter, Brad Jarvis, Marshall Thompson, Michael Quinney, Theresa Austin, Angela Elderidge, and Eric Hayward.

It's always refreshing to see young people take an interest in a wildlife cause.

These Birds are Really Flying

The speed of a duck's flight depends on two factors—the duck's own exertion as it flies through the air and the influence of the wind.

For most ducks, ordinary flight is around 40-50 mph. They can add an additional 10-15 mph when danger forces them to turn on the afterburners. Contrary to popular opinion, mallard and pintail are faster than teal.

Canvasback, sometimes called "king of ducks," have been clocked at 72 mph. Thus, a canvasback who was really in a hurry with a 30 mph wind at its tail could be capable of better than 100 mph.

And that is really flying.

New Guide to National Wildlife Refuges Available

Wondering where the longest-running entertainment extravaganza will be playing this year? On the National Wildlife Refuge System, where the admission is free and all features are rated "G".

From the California coast to the Atlantic seaboard and from the maritime states of the Northeast to the Texas Gulf Coast, the curtain is always open on a show that never fails to draw rave reviews.

Your ticket to this wildlife wonderland is the new "Visitor's Guide to the National Wildlife Refuges," published by the Interior Department's U.S. Fish and Wildlife Service.

Most of the Nation's 413 National Wildlife Refuges are depicted on this handy, pocket-size map of the United States. As a convenience to vacationers and day-trippers these refuges are spotted against an outline of the Interstate Highway System on this colorful and attractive map. On the reverse, a complete run-down of major public use activities on each refuge is provided, ranging from auto tours to foot trails to hunting and fishing.

The "Visitor's Guide to the National Wildlife Refuges" is available for $2.25 (or $31 per 100 copies) from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Specify stock #024-010-00529-7).

A Correction

In the article "Two Master Craftsmen" in the September/October 1982 issue of Louisiana Conservationist, it was stated that the only perfect 1500 score fired in the history of the Practical Pistol Course matches was fired with a gun built by Ken Eversull of Alexandria. Louisiana Conservationist has since learned that the pistol used to obtain this perfect score was not an Eversull gun, but rather a pistol built by Travis Strahan of Ringgold, Georgia. It seems the shooter, Sgt. James E. Collins of the Alabama State Police, owned both a Strahan and an Eversull pistol, but used the Strahan gun in the match when he fired the 1500 score. He shot a score of 1499 with the Eversull gun. We certainly feel Strahan deserves credit for his master craftsmanship and we apologize for the error.

Southeastern Louisiana University to Conduct Wild Turkey Research

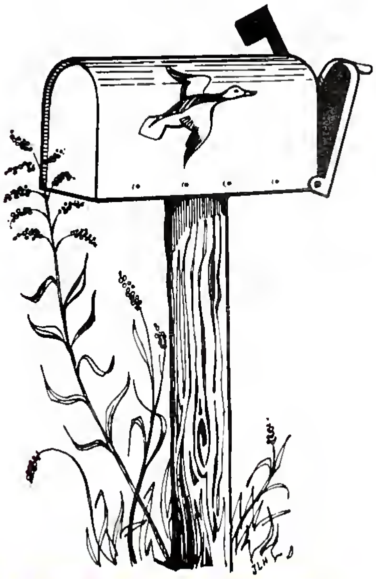
Southeastern Louisiana University in Hammond has received a research grant for a study on the ecology of the eastern wild turkey in intensively managed timberlands of southeastern Louisiana. The Louisiana chapter of the National Wild Turkey Federation, at its December 1982 meeting, agreed to provide an initial $14,000 for the study from January to August of 1983.

They study, proposed by SLU biology professor Dr. Winston Paul Smith, was chosen for the grant over several others from Louisiana universities and from Mississippi State University. Support for the research will also come from the Louisiana Department of Wildlife and Fisheries, Crown-Zellerback Corporation, and SLU.

Dr. Smith's study, planned for a three-year period, will attempt to determine 1) daily, seasonal and annual movement and activity patterns of the wild turkey within intensively managed timerlands, 2) daily and seasonal habitat use patterns and preferences, and 3) seasonal food habits of the turkey within the study area. Over 27,000 acres of land owned or leased by Crown-Zellerback between the Amite and Tickfaw Rivers in St. Helena Parish is the designated site for the study.

Turkeys within the study area will be trapped, fitted with radio transmitters, released and then monitored to obtain data on habitat preferences, food habits and movemets over the three-year study period. Information derived from this study will have broad application, providing the ecological basis for managing wild turkeys in pine-hardwood forests in Louisiana.

This research project is part of an effort by the National Wild Turkey Federation to obtain current ecological information on existing wild turkey populations.



"WE GET LETTERS..."

White Quail

Enclosed you will find a picture of a white quail. This bird was taken by Mr. Shelton Reese in the Pine Grove community near Saline in Bienville Parish. There were about ten birds in this covey but this was the only white one visible. Actually, Mr. Reese did not notice anything special about this bird until his liver-and-white pointer retrieved the bird for him.

Since this is the first white quail I have ever heard about, I wonder if you or any of the readers of the Louisiana Conservationist know of another white quail that has been taken in this great state of ours. If so, would you tell us about it?

Your great work in the Louisiana Conservationist is just one more reason we can take pride in this great state of ours!

C. Jerry Martin
Ashland, LA

John D. Newsom, assistant secretary of the Department of Wildlife and Fisheries, tells us that in all his years as a professional wildlife biologist and an avid hunter in Louisiana, he has never seen nor heard of an all-white quail such as the one in the picture you sent to us. Newsom says Mr. Reese's quail is quite unusual, an example of one of nature's oddities. Such an all-white color variation also occurs rarely in other animal species.

—Editor

Louisiana's Floral Treasures

I enjoyed the article "Louisiana's Floral Treasures" (November/December 1982) very much.

I would like to purchase some of Margaret Stones' work of Louisiana plants and flowers. Are there any prints for sale? Will the watercolors ever be on display in New Orleans?

Dianne Harrison
Metairie, LA

We are glad you enjoyed the article "Louisiana Floral Treasures." Unfortunately, the original edition of Margaret Stones' prints published by LSU sold some time ago and we do not know of any plans for another series to be printed in the future.

To our knowledge there is no scheduled display of Miss Stones' watercolors in New Orleans. However, they are on permanent display in the LSU library in Baton Rouge.

—Editor

Camp Hunting Story a Pipe Dream for Readers

Talk about pipe dreams! I really had a nice one reading your article "Camp Hunting for Ducks" (January/February 1983).

I'm sure those fellows know too that they had a bit of heaven-on-earth that trip.

Your writing made it live for us readers. In fact, articles in the Conservationist are always good, better than national sports magazines.

Thanks for taking us on that ideal trip with you.

Bill Koonce
Covington, LA

More Stories on Louisiana Archaeological Sites

I really enjoyed the article on Poverty Point (November/December 1982) and would like to see more stories on Louisiana archaeological sites in "Louisiana Conservationist." The relevancy may be far greater than at first seems apparent.

Congratulations on another fine issue. They just keep coming, each one better than the last. Thanks to you and your excellent staff, your magazine is a Louisiana taxpayer's greatest "fringe benefit!"

Maury Midlo
New Orleans, LA

An Unusual Striped Bass

I have an 18 lb. striped bass that was caught in Toledo Bend which I have had made into a wall mount. The taxidermist who made the mount said this was a very rare fish . . . that he could be a female or male, it just depended on what the fish wanted to be. He said it had both male and female organs. Could this be true? He offered to buy this fish from us because of this, but our fish is not for sale.

Aletha Ensinger
Florien, LA

You indeed have an unusual fish, according to Arthur Williams of our fish division, who has spent many years studying striped bass. Williams says he has never seen nor heard of striped bass with both male and female reproductive organs. He says it is possible, however, for this phenomenon to occur, just as it sometimes does in mammals. There are other species of fish that normally change their sex at some point in their life, but this is not usual for striped bass. You have an uncommon fish and we don't blame you for marking it "not for sale."

—Editor

Good Memories

The article "The Old Deer Hunter" was the best I ever read. I just had to write and thank Mr. McFadden Duffy for a fine job. It brought back a few good memories. Like to see a few more articles of this kind.

Eric Bettevy
Hessmer, LA

Enjoys Magazine

I have been on your Louisiana Conservationist magazine mailing list for years and want you to know how much I enjoy the variety of articles, the excellent recipes, and exceedingly beautiful photography.

I would appreciate your placing the names of two friends of mine (who fish and shrimp with me) on the mailing list for the Conservationist.

Keep up the good work.

Judge Denis A. Barry
Court of Appeal, Fourth Circuit
New Orleans, LA

Pie's Potpourri

By Marian
"Pie" Pendley

Lloyd Poissenot

Trout in Crust

1 8 oz. crust
2 tbsps. butter
2 tbsps. mushrooms, finely chopped
2 tbsps. celery, finely chopped
3 tbsps. crabmeat
3 tbsps. cooked shrimp, finely chopped
salt and pepper to taste
8 oz. puff pastry or 1 pkg. crescent roll dough

Preheat oven to 350°. Clean trout and pat dry. Melt butter in pan and brown the trout on each side. Remove from pan and saute mushrooms and celery. Add crabmeat, shrimp and seasonings and saute for an additional two minutes. Fill the trout with this mixture. Roll the dough very thin and wrap around middle section of trout, leaving head and tail exposed. Bake until done and pastry is golden brown, about 10-15 minutes. Pour hollandaise sauce over the middle section of the trout and serve immediately. This is for 1 recipe, so increase accordingly.

Hollandaise Sauce

¾ cup water
Salt, red pepper and paprika to taste
Juice of 1 lemon
1 tablespoon cornstarch
2 egg yolks, beaten
2 tbsps. butter

Heat water in top of double boiler. Add salt, red pepper, paprika, and lemon juice. Dissolve cornstarch in a little cold water. Add to above mixture, stirring constantly. When mixture is slightly thickened, remove from over hot water. Add the beaten egg yolks and one tablespoon butter. Mix thoroughly and place over hot water again until thickened. Add the other tablespoon of butter, mix well and serve.

Crawfish with Sour Cream

1 lb. crawfish tails
4 tbsps. butter
(do not substitute Oleo)
1 bunch green onions, finely chopped
6 sprigs parsley, finely chopped
1 rib of celery, finely chopped
1 clove garlic, minced
¾ cup white wine (approx.)
¾ cup sour cream
salt and white pepper to taste

Saute onions, parsley, celery in butter until tender, add crawfish and cook until golden. Add wine and garlic and simmer until crawfish are tender and wine is reduced about 1/3. Stir in sour cream a few minutes before serving. Can be served in ramekins or individual vol-au-vent shells.

Shrimp Puff

½ cup vegetable oil
¼ cup butter
½ cup water
¾ cup plus 2 tablespoons flour
3 eggs
dash of hot sauce
¼ teaspoon salt
1 cup shredded Gouda cheese
1 tablespoon minced parsley
1 cup cooked shrimp, minced

Melt butter in a medium saucepan; add water and bring to a boil. Add flour, stirring until mixture leaves sides of pan; remove from heat. Add eggs, one at a time, beating well at medium speed of electric mixer after each addition. Stir in remaining ingredients and mix well.

Drop mixture by teaspoonfuls into hot oil. Fry about 5 minutes or until golden brown. Drain on paper towels.